भारतीय मानक

Indian Standard

IS 5850 : 2023

ढलाई में उपयोग के लिए स्टार (विकोणीय) कटर — विशिष्टि

(पहला पुनरीक्षण)

Star (Triangular) Cutters for Use in Foundries — Specification

(First Revision)

ICS 77.180

भारतीय मानक ब्यूरो

BUREAU OF INDIAN STANDARDS

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October 2023 **Price Group 4**

Foundry and Steel Castings Sectional Committee MTD 14

FOREWORD

This Indian Standard (First Revision) was adopted by the Bureau of Indian Standards, after the draft finalized by the Foundry and Steel Castings Sectional Committee had been approved by the Metallurgical Engineering Division Council.

This standard was first published in 1970. This revision has been brought out to bring the standard in the latest style and format of the Indian Standards.

The composition of the Committee responsible for the formulation of this standard is given in Annex A.

For the purpose of deciding whether particular requirement of this standard is complied with the final value, observed or calculated, expressing the result of a test or analysis, shall be rounded off in accordance with IS 2 : 2022 ‘Rules for rounding off numerical values (*second revision*)’. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

Indian Standard

STAR (TRIANGULAR) CUTTERS FOR USE IN FOUNDRIES — SPECIFICATION

(First Revision)

1 SCOPE

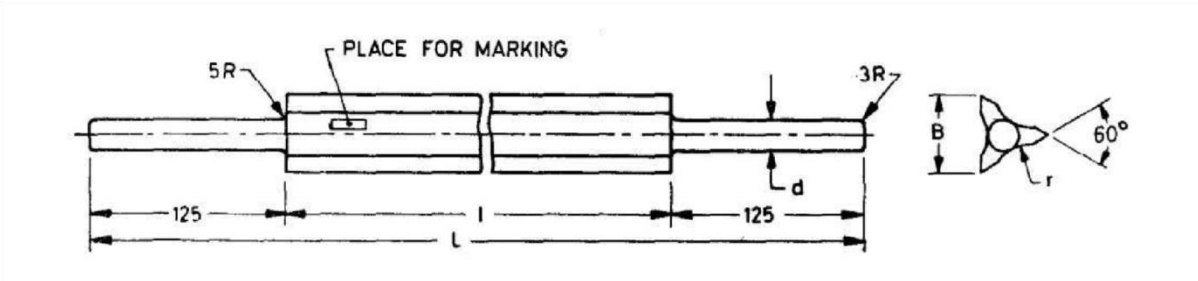
This standard specifies the requirements for star cutters for use in foundries. Star cutters are used as mould and core trimming tool.

2 REFERENCES

The standards given below contain provisions which through reference in this text, constitute provision of this standard. At the time of publication, the editions indicated were valid. All standards are subject to revision and parties to agreements based on this standard are encouraged to investigate the possibility of applying the most recent edition of these standards:

IS No.	*Tittle*
IS 919 (Part 1) : 2014/ISO 286-1 : 2010	Geometrical product specifications (GPS) — ISO code system for tolerances on linear sizes: Part 1 Basis of tolerance, deviation and fits (*third revision*)
IS 1387 : 1993	General requirements for the supply of metallurgical materials (*second revision*)
IS 3748 : 2022/ISO 4957 : 2018	Tool steels — Specification (*third revision*)
IS 5850 : 1970	Specification for star (triangular) cutters for use in foundries

3 DIMENSIONS



All dimensions in millimetres.

Sl No.	*L*	*l*	*B*	*d*	*r*
(1)	(2)	(3)	(4)	(5)	(6)
i)	650	400	32	12	16
ii)	750	500	40	16	20
iii)	880	630	50	20	25

4 MATERIAL

The material shall be in accordance with tool steel C80U of IS 3748.

5 HARDNESS

The hardness of material, when tested in accordance to IS 1586/ISO 6508-1 shall be HRC 50 to 55 on the blade.

6 TOLERANCES

Tolerance shall have values of standard tolerance grade as IT14 of IS 919 (Part 2)/ISO 2862.

7 FREEDOM FROM DEFECTS

Heat-treated surfaces shall be free from rust, cracks, burrs, sharp edges, scales, etc.

8 SUPPLY

General requirements relating to supply of the materials to this specification shall be as laid down in IS 1387.

9 PACKING

The cutters shall be coated with protective oil, and packed in wooden boxes, weighing not more than 50 kg overall.

10 MARKING

10.1 The cutter shall be marked with the following:

a) Trade-mark or name of manufacturer; and

b) *Designation* — The cutter shall be designated by the length and the number of this specification.

Example:

Star cutter 650 IS 5850 indicates a star cutter with overall length of 650 mm.

10.2 BIS Certification Marking

The products(s) conforming to the requirements of this standard may be certified as per the conformity assessment schemes under the provision of the *Bureau of Indian Standards Act*, 2016 and the Rules and Regulations framed thereunder, and the product may be marked with the Standard Mark.

ANNEX A

(*Foreword*)

COMMITTEE COMPOSITION

Foundry and Steel Castings Sectional Committee, MTD 14

Organization	*Representative(s)*
BHEL (CFFP), Haridwar	SHRI V. K. RAIZADA **(*Chairperson*)**
Bharat Heavy Electricals Ltd, HPEP, Hyderabad	SHRI ABHINAV AGRAWAL
BHEL, Haridwar	SHRI A. N. SUDHAKAR SHRI RANJITH LAKRA (*Alternate*)
Bhilai Engineering Corporation Limited, Bhilai	SHRI AKHIL DUBEY SHRI SHIV DUTT MISHRA (*Alternate*)
CSIR - Central Mechanical Engineering Research Institute, Durgapur	DR SUDIP SAMANTHA
CSIR - National Institute for Interdisciplinary Science and Technology (NIIST), Thiruvananthapuram	DR TPD RAJAN DR M. RAVI (*Alternate*)
Directorate General of Quality Assurance, Ichhapur	SHRI ASHOK KUMAR SHRI S. ROY CHOWDHURY (*Alternate*)
Disa India Ltd, Bangalore	SHRI SUNIL KUMAR GHOSH SHRI SURESH KUMAR A. (*Alternate*)
Forace Polymers Private Limited, Haridwar	SHRI D. K. GHOSH
Hindustan Aeronautics, Foundry and Forge Division, Bengaluru	SHRI K. SATYENDRA KUMAR
Indian Institute of Technology, Kharagpur	PROF SHIV BRAT SINGH PROF RAHUL MITRA (*Alternate*)
Indian Ordnance Factory Board, Kolkata	SHRI G. JHA SHRI A. K. LALA (*Alternate*)
Indian Ordnance Factory, Grey Iron Foundry, Jabalpur	SHRI M. P. YADAV SHRI ARUNANSHU PRAMANIK (*Alternate*)
Indian Register of Shipping, New Delhi	DR K. K. DHAWAN SHRI S. VELMURUGAN (*Alternate*)
Institute of Technology (BHU), Varanasi	DR INDRAJIT CHAKRABARTY DR JAYANT KUMAR SINGH (*Alternate*)
Leader Valves Ltd, Jalandhar	SHRIMATI PURNIMA BERI SHRI SARABJIT SINGH (*Alternate*)
Ministry of Defence (DGQA), Ichapur	SHRI ASHOK KUMAR SHRI RUPESHBANAIT (*Alternate*)
Ministry of Railway, RDSO, Lucknow	SHRI C. SENGUPTA SHRI RAJ KISHORE PRASAD (*Alternate*)

Organization	*Representative(s)*
Ministry of Science & Technology, New Delhi	MS TAMANNA ARORA SHRI K. S. P. RAO (*Alternate*)
National Institute of Foundry & Forging Technology, Ranchi	DR KAMLESH KUMAR SINGH DR AMITESH KUMAR (*Alternate*)
National Metallurgical Laboratory, Jamshedpur	DR D. N. PASWAN MS MINAL SHAH (*Alternate*)
NIT Manipur, Langol, Imphal	PROF (DR) GOUTAM SUTRADHAR DR ANIL KUMAR BIRRU (*Alternate* I) DR SABINDRAKACHHAP (*Alternate* II)
Steel Cast Ltd, Bhavnagar	SHRI V. K. MODI SHRI B. C. ROUTRAY (*Alternate*)
Tata Motors, Jamshedpur	SHRI S. KUMAR DR D. S. PADAN (*Alternate*)
The Institute of Indian Foundry Men, New Delhi	SHRI DINESH GUPTA SHRI SANJEEV KUMAR (*Alternate*)
The Wesman Engineering Co Pvt Ltd, Kolkata	SHRI RANJAN GUHA SHRI ASHUTOSH MONDAL (*Alternate* I) SHRI PARTHA CHATTERJEE (*Alternate* II)
Versatile Equipments Pvt Ltd, Kolhapur	SHRI PUSHKRAJ JANWADKAR SHRI KIRAN PANDI (*Alternate*)
BIS Directorate General	SHRI SANJIV MAINI, SCIENTIST 'F'/SENIOR DIRECTOR AND HEAD (METALLURGICAL ENGINEERING) [REPRESENTING DIRECTOR GENERAL (*Ex-officio*)]

Member Secretary
SHRI KUNAL KUMAR
SCIENTIST 'D'/JOINT DIRECTOR
(METALLURGICAL ENGINEERING), BIS

Bureau of Indian Standards

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Amendments are issued to standards as the need arises on the basis of comments. Standards are also reviewed periodically; a standard along with amendments is reaffirmed when such review indicates that no changes are needed; if the review indicates that changes are needed, it is taken up for revision. Users of Indian Standards should ascertain that they are in possession of the latest amendments or edition by referring to the website-www.bis.gov.in or www.standardsbis.in

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Amendments Issued Since Publication

Amend No.	Date of Issue	Text Affected

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